Fresno to Bakersfield Section of the California High-Speed Train System

Highlights of Final Environmental Impact Report/Statement Prepared for the Federal Railroad Administration

Background

- This Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) is the project-level environmental impact document for the California High-Speed Train (HST) project section from the Fresno Station to the Bakersfield Station, a distance of approximately 114 miles.
- The California High-Speed Rail Authority (Authority) has held over 800 local meetings and 48 additional public and technical working group meetings throughout the environmental review process for the Fresno to Bakersfield project section.
- This Fresno to Bakersfield Section Project EIR/EIS builds upon work completed earlier in broader, statewide environmental impact analyses conducted in 2005 and 2008 by the Authority. Those first analyses provided the Authority and the Federal Railroad Administration (FRA) with the means to evaluate the overall high-speed rail system statewide and make some general decisions about potential alignments and station locations for consideration. This Fresno to Bakersfield project section EIR/EIS is a more detailed look at the individual project section, one of nine high-speed rail project sections. .
- The Authority and FRA circulated the Fresno to Bakersfield Section Draft Project EIR/EIS for public review and comment to affected local jurisdictions, state and federal agencies, tribes, community organizations, other interest groups, interested individuals and the public from August 12, 2011 to October 13, 2011. This review period included public information meetings and public hearings in communities situated along the project section's alternative alignments.
- Because of substantive comments received during the public and agency review of the Draft EIR/EIS in 2011, the Authority decided to reintroduce two alternative alignments west of Hanford (the Hanford West Bypass 1 and 2 Alternatives) that would be consistent with the corridor alignment identified in the Statewide Program EIR/EIS (2005). The Authority decided to present another alternative in Bakersfield (Bakersfield Hybrid Alternative) that would minimize impacts to residential and community facilities in the Bakersfield Metropolitan Area. As a result of these decisions to reintroduce alternatives, the Authority determined, pursuant to Section 15088.5 of the CEQA Guidelines, that it was necessary to prepare and circulate a Revised Draft EIR. Pursuant to 40 C.F.R. 1502.9, the FRA also determined that these changes to the project alternatives made it necessary to prepare a Supplemental Draft EIS.
- In 2012, the Authority and FRA circulated a Revised Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (Revised Draft EIR/Supplemental Draft EIS) for the Fresno to Bakersfield project section to affected local jurisdictions, state and federal agencies, tribes, community organizations, other interest groups, interested individuals, and the public for 90 days from July 20, 2012, to October 19, 2012. This document included the revisions stated above and the review period included public information meetings and public hearings.
- During the comment periods for the initial and revised environmental documents, 2,255 submissions were made commenting on one of or both the Fresno to Bakersfield Section Draft EIR/EIS and Revised Draft EIR/Supplemental Draft EIS. Of these submittals, approximately 124 generally supported and 630 generally opposed the project. Most comments came from people living, working, or with property interests in the project study area. Among the comments received from the general public, effects on farmland and private property, and potential neighborhood impacts were the top concerns. Affected jurisdictions, such as cities and counties, generally listed their preference for and/or disapproval of specific alternatives, design options, or other project components. Businesses generally commented on specific property impacts. Comments were received from 50 special interest or community organizations representing their environmental or farming interests.

- The scoping meetings and public outreach efforts that were held during the environmental review process revealed the following areas of controversy:
  - Selection of the Preferred Alternative.
  - Impacts on communities located along the potential alignment corridors, from noise, visual quality, loss of community character and cohesion, disproportionate adverse effects on low-income and minority populations, and impacts from right-of-way acquisition.
  - Impacts on farmlands including severance of farmlands, loss of productive farmland, and loss of agricultural enterprises such as dairies.
  - Impacts on special-status plants and wildlife and wildlife habitat.
  - Trade-offs between corridor communities and agricultural lands.
- In the period between publication of the Revised Draft EIR/Supplemental Draft EIS and Final EIR/EIS, the environmental analysis was revised based on design (configurations of the alignment alignments and associated parts of the HSR) and analytical (corrections and amplifications of the analysis of potential impact) refinements.

  The design refinements were:
  - Designs for road overcrossings and undercrossings for all alternatives revised to be consistent with local government requirements.
  - Design for the Burlington Northern Santa Fe (BNSF) Alternative Kings River complex crossing revised to accommodate levee maintenance access for Kings River Conservation District.
  - Design modification north of Corcoran to avoid Caltrans right-of-way along State Route 43.
  - Design revised to accommodate minor adjustments in the location of traction power facilities.
  - Design revised to include potential for sewer line extension along East Lacey Boulevard to serve the Kings/Tulare Regional Station-East Alternative.
  - Design revised to reduce impacts on businesses.
  - Design revised to reduce environmental impacts.
  - Design revised to add minor project features and geometric refinements.
  - Design revised for Hanford West Bypass alternatives to avoid 4(f) properties.
  - Design revised for straddle bents.
  - Refinements to allow for seismic upgrades of Caltrans overcrossings.

  The analytical refinements were:
  - Revisions in the text in response to comments on the Revised Draft EIR/Supplemental Draft EIS to clarify and amplify the analysis and discussion.
  - Correction to a technical error in the traffic modeling for projected station area traffic intersection impacts.
  - Revisions to the analysis of greenhouse gas project impacts and benefits based on refined and updated modeling tools and updated assumptions.
  - Revisions to reflect information gathered and analyses conducted in consultation with federal agencies for compliance with Section 106 of the National Historic Preservation Act, Section 404 of the Clean Water Act, and Section 176(c) of the Clean Air Act.
  - Revisions to acreage tables that reflect the above changes to the project design, and corollary changes to the environmental analysis, where necessary.
  - Revisions to mitigation measures for biological resources and wetlands impacts to incorporate recommendations of federal and state regulatory agencies.
  - Revisions to add information about the range of potential off-site mitigation areas for biological resources.

  - Inclusion of material as identified by CEQA and NEPA for a Final EIR/EIS, including copies of written comment letters and verbal comments received during the public circulation period for the Draft EIR/EIS and Revised Draft EIR/Supplemental Draft EIS, and responses to those comments.
  - Revisions to cost data based on the updated design quantities analysis and the draft 2014 Business Plan.

- Between the Draft and Final EIR/EIS, the Authority identified the Preferred Alternative which extends from Downtown Fresno to Downtown Bakersfield and includes portions of the BNSF Alternative in combination with the Corcoran Bypass, the Allensworth Bypass, and Bakersfield Hybrid alternatives. The U.S. Environmental Protection Agency and U.S. Army Corps of Engineers issued letters identifying the Preferred Alternative as the preliminary Least Environmentally Damaging Practicable Alternative on December 19, 2013. Additionally, the State Historic Preservation Office issued letters of concurrence with the Historic Properties Survey Report, Historic Architectural Survey Report, Archaeology Survey Report, Salon Juarez Traditional Cultural Property Study, and Draft Section 106 Findings of Effect. These findings and concurrences are all key steps in moving the environmental review process forward to final.

- An Air Quality General Conformity Determination is required before project construction begins. A draft General Conformity Determination accompanies this Final EIR/EIS. The FRA concluded in the draft General Conformity Determination that the proposed project, as designed, conforms to the purpose of the approved State Implementation Plan for compliance with the federal Clean Air Act and is consistent with all applicable requirements.

- On February 7, 2014, the Authority released their Draft 2014 Business Plan for public review and comment. Every two years, the Authority is required to submit a business plan to the California Legislature by May 1 after a 60-day public review period. This draft plan, which is required by Assembly Bill 528 (Lowenthal, Chapter 237, Statutes of 2013) and Senate Bill 1029 (Budget Act of 2013-13), summarizes the progress the Authority has made over the last two years, updates the Authority's 2012 Business Plan to include recent ridership forecasts and cost estimates and describes the next major decisions and milestones that lie ahead. It also lays out the Statewide Rail Modernization plan, initially included in the 2012 Business Plan, that describes the anticipated phasing of implementation for each individual section of the high-speed rail project, including the order of priority for construction, with the Fresno to Bakersfield Section described in this EIR/EIS being the second project section to break ground after the Merced to Fresno project section.

  - The 2012 and 2014 Business Plans feature a detailed description of the anticipated phasing of the implementation of each individual section of the HST System, including the order of construction of the project sections. Key elements of the 2012 and 2014 Business Plans' phased implementation strategy include blending the HST System with improvements to existing rail systems, making early investments in the system "bookends" (i.e., the San Francisco Bay Area and the Los Angeles Basin regions), and delivering early benefits to Californians by using and leveraging investments as they are made.

Comparison of Alternatives

- The alternative alignments considered for the Fresno to Bakersfield project section include eight alternative alignments in the more rural area between Fresno and Bakersfield and three alternative alignments in the city of Bakersfield. Any combination of these alternatives could comprise the complete alignment from Fresno to Bakersfield, creating a total of 108 distinct alternative alignment combinations. Instead of discussing 108 alternatives, the EIR/EIS begins with the assessment of a single alignment from Fresno to Bakersfield (the BNSF Alternative). Then, the document analyzes the additional alternatives that would deviate from this alignment beginning in the north and proceeding to the south. The alternatives are listed below and are shown in Figure 1.
    - Hanford West Bypass 1; Hanford West Bypass 1 Modified;
    - Hanford West Bypass 2; Hanford West Bypass 2 Modified;
    - Corcoran Elevated; Corcoran Bypass;
    - Allensworth Bypass;
    - Wasco-Shafter Bypass;
    - Bakersfield South; and Bakersfield Hybrid.
- All of the alternatives would result in construction period and operations period unavoidable adverse potentially significant impacts in transportation, noise, socioeconomics and communities, environmental justice, station area

planning, agricultural lands, aesthetics and visual quality, cultural resources, and section 4(f) properties. The intensity and level of significance of a particular impact for a particular alignment alternative depends on the context and location. In general, the portions of the alternatives that traverse urban areas result in higher levels of traffic, noise, and community impacts, whereas the alternatives that traverse more rural areas result in higher levels of farmland impacts.

- High-speed rail alternatives could have significant and unavoidable impacts on the following resources: transportation, noise levels, communities, current and future land use, farmland, aesthetics and visual resources, cultural resources, and Section 4(f) properties. Some mitigation measures, such as those for noise and visual resources impacts, will be decided upon in coordination with local communities, whose input can influence the mitigation. For example, if a community decides against a sound barrier, the noise effect could remain significant. Specifically, the following impacts would remain significant to varying degrees after mitigation is applied, depending on the alternative.
  - All alternatives would affect local circulation in the congested areas of Fresno and Bakersfield by extending the duration of peak periods of congestion. The effect of this increased congestion would be considered significant under NEPA and the impact would be less than significant under CEQA.
  - Noise from high-speed rail operation could affect certain properties along all alternatives.
  - The BNSF Alternative east of Hanford would divide the small rural neighborhoods at Ponderosa Road east of Hanford, Newark Avenue northeast of Corcoran, and Crome between Shafter and Bakersfield. The Corcoran Bypass would divide the small rural neighborhood at 5th Avenue and Waukena Avenue east of Corcoran. All of the alternatives in Bakersfield would divide neighborhoods in the Central and Northeast districts of the city.
  - Project impacts occurring disproportionately on minority and low-income populations would occur in Fresno, Corcoran, Wasco, Shafter and Bakersfield. Rural areas, such as Newark Avenue, 5th Avenue and Waukena Avenue in Corcoran, and Crome would also be affected. The BNSF Alternative through Corcoran, Wasco, and Shafter, the Corcoran Bypass Alternative, and the Bakersfield alignment alternatives would all disproportionately impact minority and low-income populations. These impacts would include an increase in both ambient noise levels above standards, disruption of communities and the displacement of community facilities, changes or loss of park resources, decreases in visual quality, and cumulative impacts for noise and vibration, aesthetics and visual resources and communities. Mitigation measures are identified are required to reduce and minimize adverse effects of project impacts and would be applicable in areas where environmental justice communities occur.
  - The BNSF, Hanford West Bypass 1 and 2, Hanford West Bypass 1 Modified and 2 Modified, Corcoran Bypass, Allensworth Bypass, and Wasco-Shafter Bypass alternatives, and the Kings/Tulare Regional Station alternatives would cause a substantial change in the intensity of land use that would be incompatible with adjacent agricultural land uses.
  - Farmland would be converted to nonagricultural use by all project alternatives except for the alternatives in Bakersfield.
  - The BNSF Alternative would lower visual quality in Corcoran, Wasco, Shafter, Bakersfield, Colonel Allensworth State Historic Park, Rosedale, Kern River, and Bakersfield landscape units. The Corcoran Elevated and Corcoran Bypass alternatives would lower visual quality in the Corcoran landscape unit. The BNSF, Corcoran Bypass, and Wasco-Shafter Bypass alternatives would lower visual quality of rural residents within 0.25 mile of these alignments in the rural portions of the alignments. The Bakersfield South Alternative and Bakersfield Hybrid alternatives would lower visual quality in the Rosedale, Kern River, and Bakersfield landscape units.
  - Historically significant built-environment resources would be affected, including resources listed on or potentially eligible for listing on the National Register of Historic Places.
  - Several project alternatives would have significant and unavoidable impacts on Section 4(f) properties:
    - The BNSF Alternative would affect the Friant-Kern Canal and the Washington Irrigated Colony Historic Rural Landscape, including two of its contributing properties: the Washington Colony Canal and the North Branch of Oleander Canal.
    - The Hanford West Bypass 1 and 2 alternatives would affect three Section 4(f) resources: the Last Chance Ditch, 13148 Grangeville Boulevard, and 9860 Thirteenth Avenue.

- The Hanford West Bypass 1 Modified and 2 Modified alternatives would affect the Last Chance Ditch.
- The BNSF Alternative in the Hanford area would affect the Peoples Ditch.
- The BNSF Alternative in the Allensworth area would affect Colonel Allensworth State Historic Park and the Allensworth Ecological Reserve.
- The BNSF South Alternative would affect one Section 4(f) resource at 2509 E. California in Bakersfield.

- The "**No Project Alternative**" analysis provides a comparison and is required by law. It represents the state's transportation system (highway, air, bus, conventional rail) as it is currently and would be after implementation of programs or projects that are projected in regional transportation plans (RTPs). These RTPs would have had to have identified funds for implementation and are expected to be in place by 2035 as well as major planned land use changes. It does not include high-speed rail. Under the No Project Alternative

  The total population of the four-county area is expected to grow to approximately 4.1 million, which is an increase of about 72 percent, or more than 1.7 million new residents, and 86,100 acres of land development. This is larger than the geographic size of the City of Fresno, which is about 72,000 acres. Additionally, this development is anticipated to follow current patterns dispersed along the edges of city growth boundaries and into unincorporated areas along highways.

  The annual vehicle-miles traveled in the four-county region is projected to increase from 48 million to almost 80 million by 2035, more than a 66 percent increase in travel that would require the use of an additional estimated 750,000 gallons of petroleum in the Fresno to Bakersfield region alone.[1]

  Demand for other types of energy, such as electricity, would also increase at a level commensurate with population growth under the No Project Alternative, which would require additional generation and transmission capacity.

- This EIR/EIS also evaluates five **heavy maintenance facility (HMF) site alternatives**: Fresno Works-Fresno, Kings County-Hanford, Kern Council of Governments-Wasco, Kern Council of Governments-Shafter East, and Kern Council of Governments-Shafter West. The HMF alternatives are shown on Figure 1.

Preferred Alternative

- The Preferred Alternative for high-speed rail through the Fresno to Bakersfield project section identified by the Authority and FRA is a combination of segments of the BNSF Alternative with the Corcoran Bypass, Allensworth Bypass, and Bakersfield Hybrid alternatives. The Preferred Alternative includes the Mariposa Street Alternative for the Downtown Fresno Station (already approved as part of the Merced to Fresno Final EIR/EIS and associated decisions), the Kings/Tulare Regional Station–East Alternative, and the Bakersfield Hybrid Station for the Downtown Bakersfield Station. The Preferred Alternative is shown on Figure 2.

- The Preferred Alternative was selected based on a balanced consideration of the environmental information presented in the Draft EIR/EIS and Revised Draft EIR/Supplemental Draft EIS in the context of CEQA, NEPA, and Section 404(b)(1) requirements, local and regional land use plans, community preferences and cost. The identification of the Preferred Alternative also integrates FRA's evaluation under Section 4(f) of the Department of Transportation Act (49 U.S.C. 303) (Section 4(f)).

- Except in the Hanford/Corcoran area, the selection of the preferred alignment in any one area (Allensworth, Wasco-Shafter, and Bakersfield) is independent of the selection of the preferred alignment in any of the other areas along the Fresno to Bakersfield corridor. For example, the selection of the preferred alignment in the Allensworth area does not influence the selection of the preferred alignment in the Wasco-Shafter area. In the case of the Hanford West Bypass and Corcoran alternatives, it was necessary to have two slightly different Hanford West Bypass alignments to connect to all of the Corcoran alternatives because of the geometric constraints of the high-speed rail alignment. Therefore, the Hanford West Bypass 1 alternatives connect only to the BNSF Alternative through Corcoran, and the Hanford West Bypass 2 alternatives connect to the Corcoran Bypass and the Corcoran Elevated alternatives.

[1] Bureau of Transportation Statistics. 2010. *The Nation's Freight.* Research and Innovative Technology Administration, Bureau of Transportation Statistics. Accessed October 22, 2010. Washington, DC. 2010. Based on the 2007 national average fuel economy for passenger and other two-axle, four-tire vehicles. Available at: http://www.bts.gov/publications/freight_in_america/html/nations_freight.html.

- The Fresno Station–Mariposa Alternative was approved by the Authority Board and by the FRA in its Record of Decision (ROD) after the Merced to Fresno Final EIR/EIS was completed and certified. Consistent with those decisions and the analysis in this Fresno to Bakersfield Final EIR/EIS, the Fresno Station–Mariposa Alternative is identified in the Fresno to Bakersfield Final EIR/EIS as the preferred downtown Fresno Station location.

- The BNSF Alternative east of Hanford and the Corcoran Bypass are the Preferred Alternative because they are more compatible with the long-range development planning for the city of Hanford and the region as a whole, and will therefore result in more development options. In addition, these alternatives will result in slightly fewer potential impacts on the natural environment. The community impacts are similar in both intensity and severity in Hanford and Corcoran when compared to the other alignment alternatives. The FRA has also determined that the BNSF Alternative east of Hanford would result in the least overall harm to properties protected by Section 4(f). The Kings/Tulare Regional Station-East is also identified as the Preferred Alternative because it is the station associated with the BNSF Alternative east of Hanford.

- The Allensworth Bypass is the Preferred Alternative because it results in fewer impacts to both the natural environment (e.g., wetlands and special-status species habitat) and communities than the BNSF Alternative does in the Allensworth area. It also avoids the use of two properties protected under Section 4(f) which would be used with the BNSF Alternative: the Colonel Allensworth State Historic Park and the Allensworth Ecological Reserve.

- Given the similarities of the impacts to natural resources between the two alternatives in the Wasco/Shafter area (i.e., BNSF Alternative and Wasco-Shafter Bypass Alternative) and the possibility to address community impacts through mitigation, the Authority and FRA identified the BNSF Alternative through Wasco and Shafter as the Preferred Alternative. This also satisfies a project objective that high-speed rail follows existing transportation or utility corridors to the extent feasible. FRA and the Authority considered the strong regional interests, consistency with the long-term development plans in Shafter, and the cost uncertainties associated with constructing the project in an existing and rapidly expanding oil field in the context of this project objective when identifying the BNSF Alternative through Wasco and Shafter as the Preferred Alternative.

- The Bakersfield Hybrid Alternative is the Preferred Alternative because it would impact the fewest acres of waters of the U.S. when compared with the BNSF Alternative through Bakersfield (Bakersfield North) and because it would result in fewer community impacts, including fewer overall displacements and fewer impacts to religious facilities when compared with both the BNSF Alternative and Bakersfield South Alternative. The Authority and FRA developed the Bakersfield Hybrid Alternative in response to community concerns received after publication of the Draft EIR/EIS and after proactive engagement with the communities to solicit input. The Bakersfield Hybrid Alternative combines the design of the BNSF and Bakersfield South alternatives to reduce impacts through the city.

- The Preferred Alternative is estimated to cost approximately $7.1 billion (in 2010 dollars). The Preferred Alternative would have lower capital costs than the BNSF Alternative, which is estimated at $7.7 billion. The alternative with the lowest capital cost ($6.9 billion) consists of segments of the BNSF Alternative in combination with the Allensworth Bypass and Wasco-Shafter Bypass alternatives.

- The Authority and FRA are considering HMF alternatives examined in this EIR/EIS and in the Merced to Fresno Section EIR/EIS. The Authority and FRA anticipate identifying a preferred HMF facility from among the alternatives assessed in these two environmental documents. A final decision on the HMF facility is anticipated to occur at a date later than the decisions on the Fresno to Bakersfield alignments and stations.

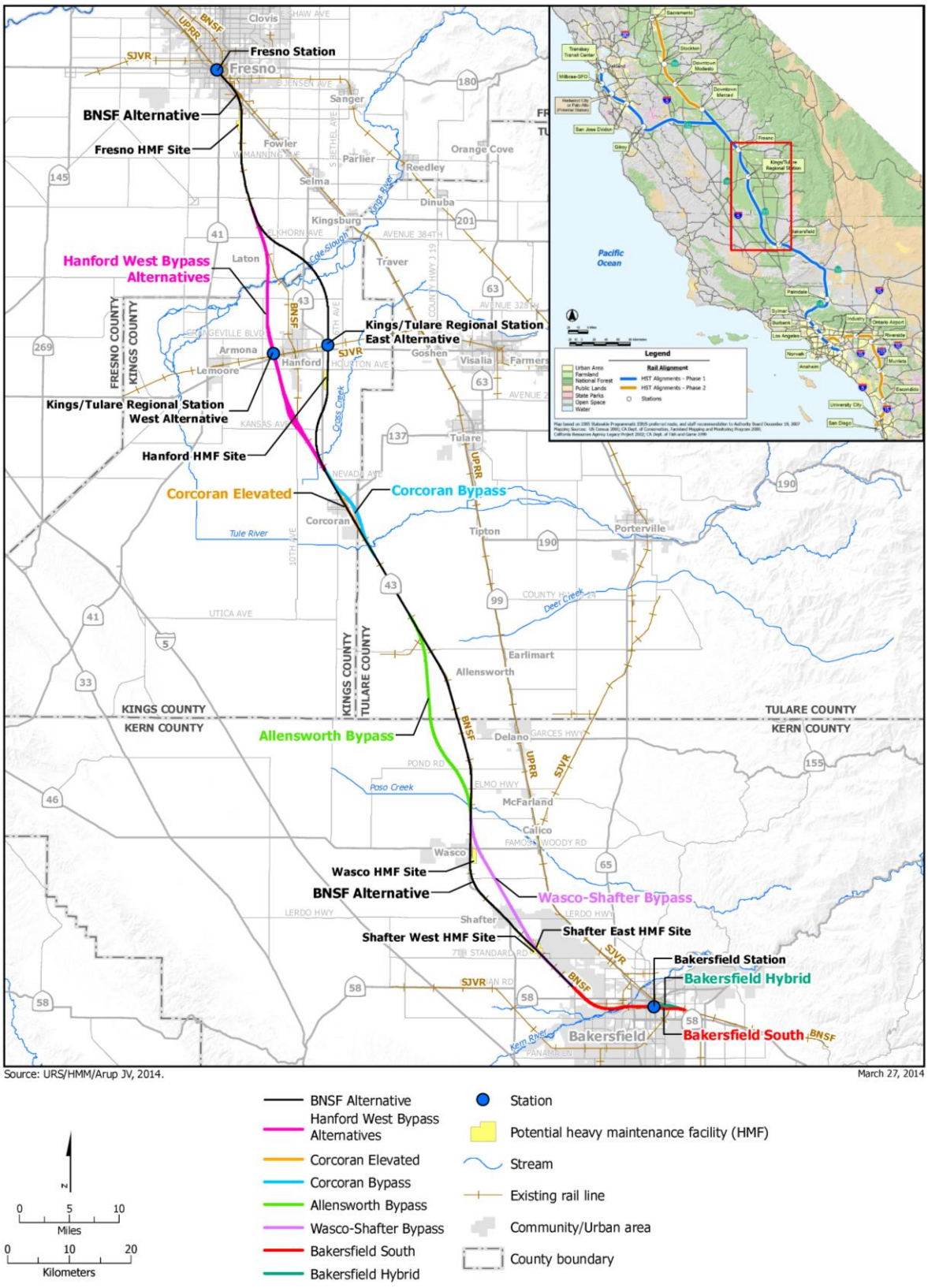

Figure 1
Fresno to Bakersfield Section Alternatives

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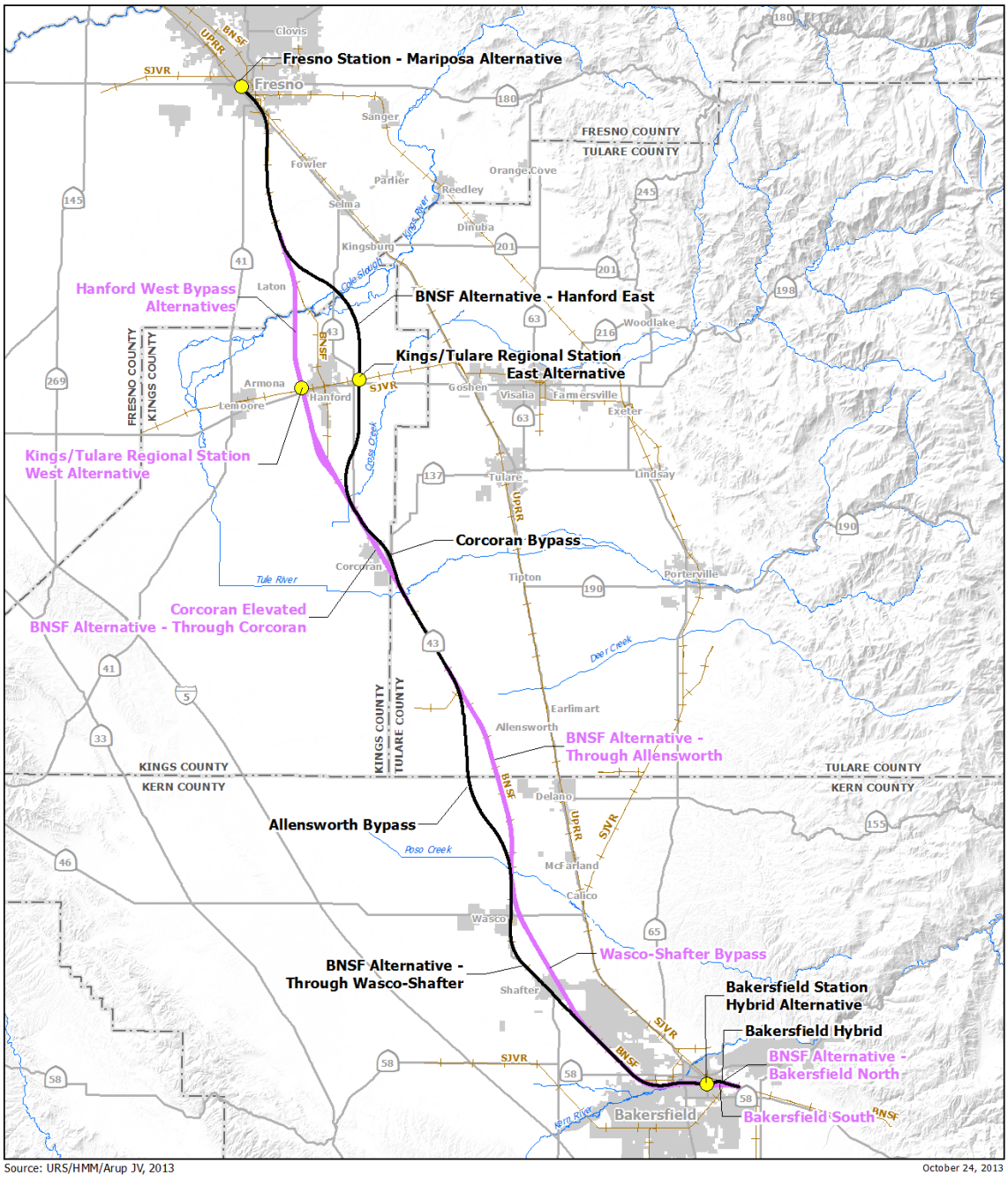

Source: URS/HMM/Arup JV, 2013

October 24, 2013

Proposed Preferred Alternative
Alternative alignment
Station
Stream
Existing rail line
Community/Urban area
County boundary

N
0 5 10
Miles
0 10 20
Kilometers

Figure 2
Fresno to Bakersfield Section
Preferred Alternative

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